

1154-03-2052 **Rehana Patel*** (rpatel@aims-senegal.org). *Exchangeable constructions via model theory.*

The Erdős-Rényi “coin flip” construction of the countable infinite random graph is *exchangeable*, in the sense that the resulting distribution does not depend on the order in which edges are decided. In a 2016 paper Ackerman, Freer and I characterised those countable infinite structures that have exchangeable constructions. Our method generalises one used by Petrov and Vershik (2010) to produce exchangeable constructions of Henson’s homogeneous-universal K_n -free graphs; it involves building a “probabilistic Henkin structure” that, in the case of graphs, is what is known as a *graphon*.

In this talk I will discuss how the model-theoretic perspective enables such a generalisation, providing a broad view of the phenomenon of exchangeability. No prior knowledge of model theory will be assumed, and all definitions will be explained. The talk will also serve as a prelude, for the non-logician, to Freer’s AMS-ASL plenary, which will look at exchangeability from a computability-theoretic perspective. (Received September 17, 2019)